



SKYWORKS®

PRODUCT SUMMARY

SKY68040-11: Multi-mode, Multi-band Power Amplifier Module for Cat M1/NB-IOT and NTN

Applications

- LTE Cat-M1, Cat NB-IOT
- 5G IOT Non-Terrestrial-Networks (NTN)
- Universal modem products:
 - Low-band: 5, 8, 12, 13, 14, 17, 18, 19, 20, 26, 28, 71, 85
 - Mid-band: 1, 2, 3, 4, 24, 25, 39, 66, 70
- NTN L-Band (B24, n255)+ S-Band (B23, B256)

Features

- Low-voltage supply for NB-IOT application: 2.8 V to 4.2 V
- High efficiency:
 - 48% at maximum power output
- Large dynamic range
- Small, low profile package
 - 3.0 mm x 4.2 mm x 0.86 mm nom.
 - 14-pad configuration
- Power-down control
- InGaP
- Supports low-voltage VCC operation
- Digital enable
- No VREF required
- CMOS compatible control signals
- Integrated directional coupler
- For RoHS and other product compliance information, see the [Skyworks Certificate of Conformance](#).

Description

The SKY68040-11 is a multiband Power Amplifier Module (PAM) supporting LTE Cat-M1, Cat1 NB-IOT and 5G IOT NTN transceiver.

The module integrates an LTE multiband radio operating in low-band (5, 8, 12, 13, 14, 17, 18, 19, 20, 26, 28, 71, 85), mid-band (1, 2, 3, 4, 24, 25, 39, 66, 70) frequencies and NTN L-Band (B24, n255) + S-Band (B23, B256), including broadband PAs with bias/gain controller. A directional coupler integrated into the module eliminates the need for an external coupler.

The single Gallium Arsenide (GaAs) Microwave Monolithic Integrated Circuit (MMIC) contains all active circuitry in the module. The MMIC contains onboard bias circuitry, as well as input and interstage matching circuits. Output match into a 50 ohm load is realized off-chip within the module package to optimize efficiency and power performance.

The SKY68040-11 PAM is manufactured with the Skyworks InGaP GaAs Heterojunction Bipolar Transistor (HBT) process. This provides for all positive voltage dc supply operation while maintaining high efficiency and good linearity.

No VREF voltage is required. Power down is accomplished by setting the voltage on VENHB and VENLB to zero volts. No external supply side switch is needed as typical “off” leakage is a few microamperes with full primary voltage supplied from the battery.

Block Diagram

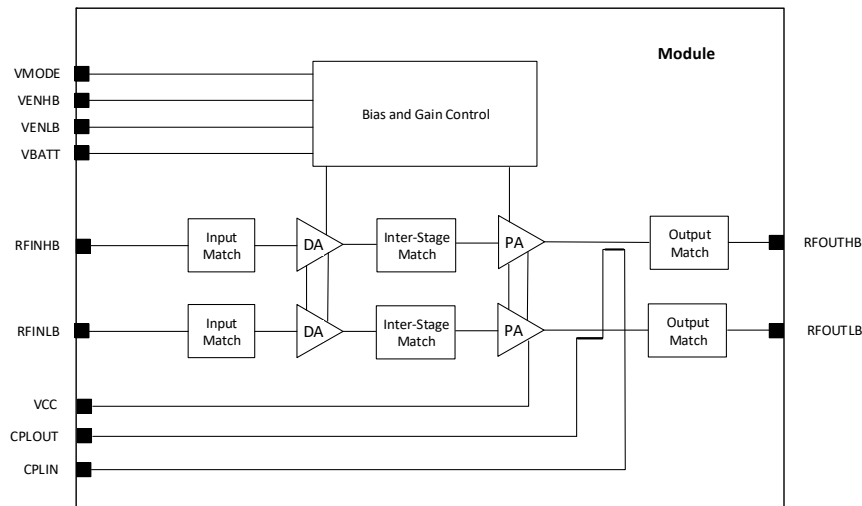


Figure 1. Functional Block Diagram

Ordering Information

Part Number	Description	Evaluation Board Part Number
SKY68040-11	Multi-Mode, Multi-Band Power Amplifier Module for Cat M1/NB-IOT and NTN	SKY68040-11EK1

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